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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,283	12/31/2001	Douglas P. Brown	10158 (NCR.0068P2US)	1213

				EXAMINER
26890	7590	03/22/2006		ALAM, SHAHID AL

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ART UNIT	PAPER NUMBER
2162	

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/039,283	BROWN ET AL.
	Examiner	Art Unit	
	Shahid Al Alam	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>29 December 2005</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-33</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-32</u> is/are rejected.

7)☒ Claim(s) <u>33</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed December 29, 2006 have been fully considered but

they are not persuasive for the following reasons.

Applicant's argues that the combination of Carino, Fitting and Hickey does not

teach or suggest a test system for emulating a target database system, Hickey does not

emulating a target database system and Hickey does not support standard database

protocols.

Examiner respectfully disagrees the entire allegation as argued.

Examiner is entitled to give claim limitations their broadest reasonable

interpretation in light of the specification. During patent examination, the pending claims

must be 'given the broadest reasonable interpretation consistent with the specification.'

Applicant always has the opportunity to amend the claims during prosecussion and

broad interpretation by the examiner reduces the possibility that the claim, once issued,

will be interpreted more broadly than is justified. In re Prater, 162 USPQ 541,550-51

(CCPA 1969).

In response to applicant's argument that the combination of Carino, Fitting and

Hickey does not teach or suggest a test system for emulating a target database system

(a person of ordinary skill in the art would not have been motivated the teachings of .

Carino, Fitting and Hickey to achieve the claimed invention), the examiner recognizes

that obviousness can only be established by combining or modifying the teachings of

the prior art to produce the claimed invention where there is some teaching, suggestion,

or motivation to do so found either in the references themselves or in the knowledge

generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5

USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed.

Cir. 1992). In this case, it would have been obvious to a person of ordinary skill in the

art at the time of the invention was made to combine the teaching of Hickey with the

teaching of Carino and Fitting to permit bi-directional messaging between a test system

and a database so as to allow the test system to retrieve product information, such as

model number, from the database in substantially real-time and thereby, eliminating the

need for information redundancy in the manufacturing system (column 1, lines 54 – 60;

Fitting).

Carino's teaching of a *multimedia relational database* and a *multimedia object*

server clearly teaches applicant's target database environment. An optimal plan is

determined by collecting *statistical information* for UDFs that operate on objects that

have *large variance* with respect to execution time and/or storage resources teaches

random sample statistics (see columns 12 and 18). Carino's teaching of SQL query

optimization and SQL queries as in column 14 – 18 clearly teach applicant's SQL

Diagnostic statement as claimed. SQL optimizers use cost estimation or sampling to

optimize queries. Sampling implies running a random instance of every UDF in the

query and using this information to generate an efficient query plan.

In response to Applicant's argument that Hickey does not emulating a target

database system. Claim limitations only teach a target database and not at all source

database, therefore, it is obvious that there is only one database, that is a source or a

target database. Applicant agrees in his argument that Hickey teaches "emulating a

database system" (see page 8 of argument). Applicant's accepting of emulating a

database system by Hickey, clearly overcome Applicant's arguments.

In response to Applicant's argument that Hickey does not support standard

database protocols, it is noted that the features upon which applicant relies (i.e.,

standard database protocol) are not recited in the rejected claim(s). Although the

claims are interpreted in light of the specification, limitations from the specification are

not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed.

Cir. 1993).

For the above reasons, Examiner believed that rejection of the last Office action

was proper.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

Claims 1 – 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over

U.S. Patent Number 6,067,542 issued to Felipe Carino ("Carino") and in view of U.S.

Patent Number 5,857,192 issued to Samuel Fitting (Fitting") and further in view of U.S.

Patent Publication Number 2003/0016237 A1 issued to Neil Hickey ("Hickey").

With respect to claim 1, Carino teaches importing environment information of a

target database system (column 3, lines 28 – 62), the environment information

comprising random sample statistics of the target database system, wherein the target

database system supports a standard database query language (column 14, lines 58 –

column 15, line 9);

storing the random sample statistics in a storage location (column 3, lines 41 –

49 and column 18, lines 32 – 35); and

using the random sample statistics in performing query plan analysis for a given

query in the test system (column 3, lines 41 – 49 and column 18, lines 32 – 35).

Carino does not explicitly teach importing information into a test system as

claimed.

Fitting discloses claimed test system, where to retrieve information about product

from the database, the controller of test system creates a request file and

communicates it to the shared file directory of the shared resource manager (SRM) (see

column 4, lines 16 – 26, see also abstract, column 1, lines 14 – 22, column 2, lines 6 –

18; Fitting).

It would have been obvious to a person of ordinary skill in the art at the time of

the invention was made to combine Fitting with Carino to permit bi-directional

messaging between a test system and a database so as to allow the test system to

retrieve product information, such as model number, from the database in substantially

real-time and thereby, eliminating the need for information redundancy in the

manufacturing system (column 1, lines 54 – 60; Fitting).

Carino and Fitting do not explicitly teach emulating the target database system

as claimed.

Hickey teaches claimed emulating the target database system. Hickey teaches

system for and method of emulating a Database4 System (see title, abstract, paragraph

[0008, 0020]).

It would have been obvious to a person of ordinary skill in the art at the time of

the invention was made to combine Carino and Fitting with Hickey to provides real time

access to data in an existing database while using an existing database application

containing business logic, and utilizes the existing error checking and error handling

functionality of the application. To improves the performance and extends the useful life

of the application, and is quickly implemented with minimal amount of training for the

user and Obviates the need to recode the application to gain increased functionality and

easily accommodates changes in the existing source application.

As to claim 2, importing the random sample statistics from a selected segment of the target database system (column 3, lines 28 – 62 and column 14, line 58 – column 15, line 9; Carino).

As to claim 3, the target database system comprises plural access modules, wherein importing the random sample; statistics comprises importing the random sample statistics associated with less than all of the access modules (column 7, lines 56 – 60; Carino).

As to claim 4, importing the random sample statistics associated with a randomly selected one or randomly selected ones of the access modules (column 16, lines 19 – 22; Carino).

As to claim 5, importing at least one of the following information: database name, base table name, number of rows in the base table, number of indexes for the base table, minimum row length in the base table, maximum row length in the base table, secondary index name, number of rows in a secondary index table, and average row size of the secondary index table (column 16, lines 15 – 50; Carino).

As to claim 6, importing the environment information of a target database system having plural access modules that manage concurrent access of plural portions of data stored in the target database system (column 2, lines 21 – 31; Carino).

As to claim 7, importing information pertaining to a configuration of the target database system (column 15, lines 6 – 9: Carino).

As to claim 8, importing cost-related information of the target database system (column 15, lines 3 – 9: Carino).

As to claim 9, importing the cost-related information comprises importing

information comprising at least one of the following: number of nodes, number of CPUs,

number of access modules, memory allocation, disk access speed and network access

speed (column 15, lines 3 – 49: Carino).

As to claim 10, emulating an environment of the target database system using

the random sample statistics, wherein performing the query plan analysis comprises

performing the query plan analysis in the emulated environment (column 18, lines 9 –

31; see also column 12, lines 24 – 34; Carino and paragraph [0080]; Hickey).

As to claim 11, emulating the environment at one of plural emulation levels, the

plural emulation levels comprising a system level and a user session level (column 18,

lines 9 – 31; see also column 12, lines 24 – 34; column 16, lines 8 – 42 and column 17,

lines 1 – 25; Carino).

As to claim 12, generating a full set of statistics from the random sample

statistics column 15, lines 3 – 20; Carino).

As to claim 13, invoking an optimizer to use the full set of statistics to perform the

query plan analysis (column 3, lines 41 – 49; Carino).

As to claim 14, using an SQL DIAGNOSTIC statement to identify random sample

statistics to capture (column 14, lines 53 – 59; Carino).

As to claim 15, using another SQL DIAGNOSTIC statement to set random

sample statistics in the storage location (column 14, lines 53 – 59; Carino).

Claims 16 – 22 and 32 are essentially the same as claims 1 – 8 and 10 – 15

except that it set forth the claimed invention as a test system rather than a method and

rejected for the same reasons as applied hereinabove.

Claims 23 – 31 are essentially the same as claims 1 – 8 and 10 – 15 except that

it set forth the claimed invention as an article rather than a method and rejected for the

same reasons as applied hereinabove.

Allowable Subject Matter

3.   Claim 33 is objected to as being dependent upon a rejected base claim, but

would be allowable if rewritten in independent form including all of the limitations of the

base claim and any intervening claims.

Conclusion

4.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Contact Information

5.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Shahid Al Alam whose telephone number is (571) 272-

4030. The examiner can normally be reached on Monday-Thursday 8:00 A.M.- 4:00

P.M..

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John E. Breene can be reached on (571) 272-4107. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

        Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Shahid Al Alam
Primary Examiner
Art Unit 2162

16 March 2006